

ATGCCAAGCGCGCACTGGGGGGCCCTCTCCGTGGTCTGATCTGCTTTGGGGCCATCCGGAGTGGCGCTGGCCCTGCCCGCATCCTTGTCCT
GCTACGTCCTCCAGCGAGGTCCACTGCACGTTCCGATCCCTGGCTTCCGTGCCCGCTGGCATTGCTAGACACGTGGAAGAATCAATTTGGGGTTTAA
TAGCATACAGGCCCTGTGAGAACTCATTTGACGAGTACCAAGTTGGAGTACTTATGATTCACGGCAATGAGATCCCAAGCATCCCGATGGA
GCTTTAAGAGACCTCAGCTCTCTTCAGGTTTCAAGTTGAGTACAACAAGCTGAGAGTGATCAGGACAGACCTCCAGGGTCTCTTAACCTAA
TTGAGCTGCACATTGACCAACAAGATCGAGTTTATCCACCCTCAAGCTTCAACGGCTTAACGTCTCTGAGGCTACTCCATTGGAAGGAAATCT
CTCCACAGCTGCACCCAGCACCTTCTCCAGTTTCAATTTTGGATTATTCAGACTCTCCACCATAAGGCACCTCTACTTAGCAGAGAATATG
GTTAGAATCTTCTGCGCAGCATGCTTCGGAACATGCCGCTTCTGGAGAACTTTACTTGCAGGGAAATCCGTGGACCTGCGATTGTGAGATGAGAT
GGTTTTTGGAAATGGGATGCAAAATCCAGAGGAATCTGAAGTGTAAAAAGGACAAAGCTTATGAAGCGGTGAGTTGTGTGCAATGTGCTTCAGTCC
AAGAAGTTGTACAAACATGAGATACCAAGCTGAAGGACATGACTTGTCTGAAGCTTCAATAGAGTCCCCTCTGAGACAGAACAGGAGCAGGAGT
ATTGAGGAGGAGCAAGAACAGGAGGATGGTGGCAGCCAGCTCATCTCTGGAGAAATTCGAAGTCCGCCAGTGGAGCATCTTTGAATATGACCG
ACGAGCACGGGAACATGGTGAATCTGGTCTGTGACATCAAGAAACCAATGGATGTGTACAAGATTCACTTGAACCAACGGATCTCCAGATATTGA
CATAATGCAACAGTTGCCCTGGACTTTGAGTGTCAATGACCCGAGAAATATGAAAGCTATGGAATTTGATAGCATACTACAGTGAAGTTCC
GTGAAGCTACACAGAGCTCATGCTCAGCAAGACCCAGAGTCAAGTTCAGTACAGGAGGATGCTGATGAGGAAGCTCTTTACTACACAGGTG
TGAGAGCCAGATTCTTGCAAGACAGAAATGGGTCTGACGCTATCCATAGATATCCAGTGAACCGACGTGAGTACGGCCAGAAGGTGCTACT
TTCTACTACACCCAGTATTCTCAAAATATCCACCAAGATACAAGCAGGCTCGGGGACAGAGTGGGTATGATTGAGCTAGTGGAGCTGTG
CAAAGAGTACAGCTTCTCTGGAAGGGGTCATGCCAGTTGAGCTGCAACGTGAAAGCTTCTGAGAGTCCATTTCTGGTGCTTCCAGATG
GCTCCATCTGAAAGCGCCATGGATGACCCAGACAGCAAGTTCTCCATTCTCAGCAGTGGCTGGGTGAGGATCAAGTCCATGGAGCCATCTGACTC
AGGCTTGTACAGTGCATTGCTCAAGTGAAGGATGAAATGGACCGCATGGTATGAGGTACTTGTGCACTCTCCCTCCACTCAGCCAGCCGAGAAA
GACAGTGAACAATTTGGCAAGAACCCAGGGGAGTGGTGACATTCCTTGCATATGCTTTAGCAATACCCGAAGCCACCTTAGCTGGATTCTTCCAA
ACAGAAGGATAATTAATGATTTGGCTAACACATCAGTGATATCATGTTGCCAAATGGAATCTTTCCATCCAAAGGTGCAAGTGTGAGTGG
TTACTACAGATGTGTGGCTGTCAACAGCAAGGGGACAGCAATTTACGGTGGGAATCAGAGTGAACCAAGAAAGGGTCTGGCTTGCATCCAAAGA
GGCAGACGCCAGGTGCAAGGCTCTTTCCAGAGTCAAGAGACATCGTGAGGATGAAGGGGGCTCGGGCATGGGAGATGAAGAGAACACTTCAA
GGAGCTTCTGCATCCAAAGGACCAAGAGGTGTTCTCAAAACAAAGGATGATGCCATCAATGGAGACAAGAAAGCCAAAGAGGAGAAAGCT
GAACTCTGGAAGCATTGGAAGAAAGAACAGAGACCAATGTTGCAAGAGTGCAGAGTGTGTAATCTAGACGAAGGATAAATATGCAACAAA
CAGATTAATCCGGAGCGCTGGGCTGATATTTAGCCAAAGTCCGTGGGAAATCTCCCTAAGGGCACAGAAGTACCCCGTGTGATTAAGAACCAA
GCTCTCCATCTTGAAGCTAGAAAGTCAACACCTTTCTCTGCTTCTCCCTCCCTCAGCATCTCTGTGTCAGACAGTAAACAGTCTGAAGATC
CTCAGCAGATGTACCTTACTTGGTGAAGAGACGCTTTTGGGTACCATTTCTCAGCCAGCATGGGGCTAGAACAACCAACATGGAGTTATT
CTTGTGAACTGAAAGTAAACAGCACCTCTGGAGGAAGTTGTTGATGACCTTTCTGAGAGACTGAGGAGATAACTTCCACTGAAGGAGACCTGA
AGGGACAGCTGAGCTTACCTTATATCTGAGCCTTATGAACCATCTCTCTGCTTCTCCCTCCCTCAGCATCTCTGTGTCAGACAGTAAACAGTCTGAAGATC
CTCAGCAGATGTACCTTACTTGGTGAAGAGACGCTTTTGGGTACCATTTCTCAGCCAGCATGGGGCTAGAACAACCAACATGGAGTTATT
CTTGTGAACTGAAAGTAAACAGCACCTCTGGAGGAAGTTGTTGATGACCTTTCTGAGAGACTGAGGAGATAACTTCCACTGAAGGAGACCTGA
AGGGACAGCTGAGCTTACCTTATATCTGAGCCTTATGAACCATCTCTCTGCTTCTCCCTCCCTCAGCATCTCTGTGTCAGACAGTAAACAGTCTGAAGATC
GACGGCAACAGAGGGTGGTCTGCAGCAGATGTTGGATCGTCACAGAGCCACATCCAGTGAATGAGCTCCATTGGATGCTGTCTCTGGCT
GAGTCTGAGCCATGCAATATCTTGAACCCAGATTGGAGACTAAGTCAACACAGATGAGGATAAGATGAAGAAAGACACCTTGCACACCTTACTC
CAACCCCATCTGAGCTTGAAGTCAACATCTCAGTACATCAGTTATTTGAGGATTTACTATAGGGGAACCGGTGTCCAGGGCAATCAGATCTACA
AGGACTGACAGACAACATCCACCTTGTGAAAGTGTCTAAGCACTAAGACACCTTACTGATTAAAAAGGGTATGAAGAGATGTCTCAGACACTA
CAGGGAGGAATATGCTAGAGGGAGACCCACACACTCCAGAAGTTCTGAGAGTGAAGGGCAAGAGAGCAATCCATCACTTTGCTGACTCCACAC
TGGGTATAATGAGCAGTATGCTCCAGTTAAGAGCCTGCGGAACCAAGTGGTACCTCTAGACAAAGACACCAACAGTAAACAACACAC
AAGGCAAAAATTTGCTCCGTCACTCCACATGAGCACTACCTTTCTGAGAGGACCAACCGGGAAGAGGATTAACCCCAACAAATTCGCGCAC
CGGCACAGCAACCCACCCACCACTTTTGGCCATCAGAGACTTTTCTACTCAACCACTCAAGCACCTGACATTAAGATTTCAAGTCAAGTGG
AGAGTCTCTGGTCTCAGCTGCTGGTGGATAACACAGTTAATACCCCAACAGTGGAAATGGAGAAGATGCAAGAACCCACATCCAAGGGAAC
ACCAGGAGAAACACCGGAGAGGCAACCAACATCGATATACCTTTCTACAGTGAAGTCAAGAGCGTCCGGATCCAGCCCAACAAATTCGCTCCA
GAAATTAACATAGAAACATTTGTTACTCCAGTTCAGAACTATACCTTTGCTTGAAGTGTCTCTGAAACTGAGGGCCCTTATGATTCCTTAG
ATTACATGACAACCCAGCAAAAATATATTATCTTACCCTAAAGTCAAGAGACACTTCCAGTCAATATAAACCCACATCAGATGGAAGAAAT
TAAGGATGATTTGCCCAAAATGTTGACAAACATAAAAGTGAATTTAGTCACTGGTGAATCAATTAATGCAATCAACACTTCTGCTCTGTG
GTCTCCACTATGGGAGAATTAAGGAAGATCTCTCTCTGTAGGCTTTCCAGGAATCCAACCTGGAATCCCTCAAGGACGGCCAGCTTGGAGGC
TACAGACAGACATCTGTTTACACTTCTGGGGAATCTTACAGACCTCCCTTCTTAAAGAGCTTGAAGATGAGATTCACTTCCGAGTTTCT
GTCTCTTGTGACAGTCTCCACACCTTTCCAGGAAGAGCTGGTCTTCCCAACTCTCTCAAGCATAAAGTGGAGTGCTTCAAGTCAAGCA
GAAACCAACCCCTTGTCAAGATCATCTTGAACCACTGTGGCTATTCTCTTTCTGAACTAGACCACAGAAATCACACCCCTACTGCTGCCCGGA
TGAAGGAGCCAGATCTCTGCTCCCATCCCAATTTCTCATGTCTTTGGGACAAACCAACCACTAAGCCAGCACTTCCAGTCCAGAAATATCTCA
AGCATCTAGAGATTCCAAGGAAATGTTTCTTGAATATGTTGGGAAATCCAGAAACAGAAACCCCAATGAAGGAACACAGCATATG
TCAGGGCCAAATGAATATCAACACCTCTTCCGACCGGATGCAATTTAATCTGTCTACAAAGCTGGAATTTGAAAGCAAGTATTTGTAGTAGGA
GTCTACACAGTGGCCAGATAGCCACCGCAGGATGGAAGAGTTCATGCTTCTCATCACTAACCAGAGTCCCTGCCAAACCCATCTTACCAACAGC
AACAGTGAAGCTACCTGAAATGTCACACAAAGCGCTTCCAGATACTTTGTAATTTCCAGTCACTCTGCTGAGCAACAAACCGGAAATACT
ACATATCTTCTGGGCTTTGCCAGAGAACAAACAGTTTACAACCTCAAGATTAAGTACAACAAATTCCTCTCCATTTGCAATGTCCAACCECA
GCATTCTAGTAAGTTTACTGACCGAAGAACTGACCAATCAATGGTTACTCCAAGTGTGGAATTAACAACATCCCTGAGGCAAGAAACCCAGT
TGGAAAGCCTCCAGTCCAAGAAATCTCTATTATTTCAATGGAAGACTCCCTTTCTTACCAACAAGACTCTTTCTTTCCAGCTTGGGAGTCAAC
CGGAGACCCAGATACCCATCTCTCTGCCCCAGTAATGAGAGAGAGAAAGTTATTCAGGTTCTTACAACAGGATACATTTCCATAGCACCTTCC
ATCTGAGCTTTGGCCCTCCGGCACCTCCGTTGTTGCACACTCCGACAGACCGGATCACCTCAACTAATTAACAGAAATATCCCTATGCTCTCTC
CACCCAGAGTTCTATCTCTTTATAACATCTTCTGTCCAGTCTCAGGAAGCTTCCACAGAGAGCTCAAGATTTCTTGCAGGAGGACCTCTGCA
TCCAAATTTCTGGTCTCTTGGGGAAGGCCCAATCTCACCAGTCCCAACAGACTGTGCTCCGTCAACCGTGAAGACAGACTGTGTTCCCTGTG
AGGCAACAGGAAACCAAGCCTTCTGTTACTTGGACAAAGGTTTCCACAGGAGCTTATGACTCCGAATACCAGGATACAACGGTTTGAAGTTCT
CAAGAACGGTACTTGTGATACGGAAGGTTCAAGTACAAGTCAAGGACAGTGTGACACCGCAACCTGCAAGGCTGGAAGAGGATGGTGT
GTCTGCTTCTGGTTCAGCTGACCAACCTCAAACTCAGCTCCCACTCAGGACGTCAGTCTACTTGGGAGACCAATGCAATGGAGTGTCT
TGGCCAAAGGAGCCAGCCCAATTTCTGGATTTCTCTGACAGGAGGTTGTGCAAACTGTGTCCCGGTGAGAGCCGATCAACCTGCA
CGAAACCGGACCTTTCCATCAAGGAGGCGTCTTCTCAGACAGAGGCGTCTATAAGTGCCTGGCCAGCAATGACGCCGGGGCGGACAGCTGGCC
ATCCGCTGCACTGGCGGCACTGCCCCCGTTATCCACAGGAGAAGCTGGAGAATCTCGCTGCCCGCGGGCTCAGCATTCACATCTACTGCA
CTGCCAAGCTGCCCGCTGCCAGCTGGGTCTCGGGGACGGTACCAGATCCGCCCTCGCAGTTCTTCCACGGGAATTTGTTGTTTT
CCCCAACGGGACGCTCTACATCCGAACCTCGCGCCCAAGGACAGCGGGCGCTATGAGTGCCTGGCCGCAACCTGTTAGGCTCCGGCGCAGGACG
GTGACGCTGAACGTGCAGCTGCAGCAGCAACCGCGGCATCACGGGACCTCCCGCGGAGGACGGAGTCAAGTACGGAGAACCTCAAGCTGG

FIG. 1

ACTGCAGCGCCTCGGGGACCCCTGGCCGCGCATCCTCTGGAGGCTGCCGTCCAAGAGGATGATCGACGCGCTCTTCAGTTTTGATAGCAGAAATCAA
GGTGTTCGCAATGGGACCCCTGGTGGTGAATCAGTGACGGACAAAGATGCCCGGAGATTACCTGTGCGTAGCTCGAAATAGGTTGGTGTGACTAC
GTGGTGCTCAAAGTGGATGTGGTGTGAAACCGGCCAAGATTGAACACAAGGAGGAGAACCACCAAAAGTCTTCTACGGGGGTGACCTGAAAGTGG
ACTGTGTGGCCACCGGGCTTCCCAATCCCGAGATCTCCTGGAGCCTCCAGACGGGAGTCTGGTGAATCCCTTCATGCACTCGGATGACAGCGGTGG
ACGCACCAAGCGCTATGTCGTCTTCAACAATGGGACACTTACTTTAACGAAGTGGGATGAGGAGGAAGGAGACTACACCTGCTTGTGAAAAAT
CAGGTCGGGAAGGACGAGATGAGAGTCAGAGTCAAGGTGGTGACAGCGCCCGCCACCATCCGGAACAAGACTTACTTGGCGGTTAGGTGCCCTATG
GAGACGTGGTCACTGTAGCCTGTGAGGCCAAAGGAGAACCCATGCCCAAGGTGACTTGGTGTGCCCAACCACCAAGGTGATCCCACTCTCTGA
GAAGTATCAGATATACCAAGATGGCACTCTCTTATTAGAAAGCCAGCGTCTTGACAGCGGCAACTACACCTGCTGGTTCAGGAACAGCGCGGGA
GAGGATAGGAAGACGGTGTGGATTACGTCAACGTCCAGCCACCCCAAGATCAACGGTAACCCCAACCCCATCACCACCGTGGCGGAGATGACAGCGG
GGGCGAGTCGGAACCTGATTGACTGCAAGCTGAAGGCATCCCAACCCGAGGGTGTATGGGCTTTTCCCAGGGTGTGGTCTGCCAGCTCCATA
CTATGGAAACCGGATCACTGTCCATGGCAACGGTTCCTTGGACATCAGGAGTTTGGAGGAGCGGACTCCGTCCAGCTGGTATGCAATGGCAGCAAC
GAGGAGGGGAGCGGAGGTGTGATCGTGCAGCTCACTGTCTGGAGCCATGGAGAAACCCATCTTCCACGACCCGATCAGCGAGAGATCAAGGCA
TGGCGGGCCACACCATCAGCCTCAACTGCTCTGCCGCGGGGACCCGACACCCAGCCTGGTGTGGGTCTTCCCAATGGCACCAGTCTGCAGAGTGG
ACAGCAGCTGCAGCGCTTACCACAAGGCTGACGGCATGCTACACATTAGCGGTCTCTCCTCGGTGGAGCTGGGGCTACCGCTGGTGGCGCCG
AATGCCGCTGGCCACACGAGAGGCTGGTCTCCTGAAGTGGGATGAAGCCAGAAACCAAGCAGTATCATAACTGGTCAGCATCATCAATG
GTGAGACCTGAAAGCTCCCTGCACCCCTCCCGGGCTGGGCGAGGAGCTTTCTCTGGACGCTCCCAATGGCATGCATCTGGAGGGGCCCAAC
CCTGGGACCGGTTTCTCTTCTGGACAATGGCACCCTCAGCGTTCGTGAGCGCTCGGTGTTCAGAGGGGTA CTTATGTATGCAGGATGGAGACGGAG
TACGGCCCTTCGGTCAACAGCATCCCGTGTGATGTGATCGCCTATCTCTCCCGGATCACCAGCGAGCCACCCCGGTCTACACCCGGCCCGGGA
ACACCGTGAACCTGAATGCATGGCTATGGGATTCCCAAGCTGACATCAGCTGGGAGTTACCGGATAAGTCCGCATCTGAAGGCGAGGTTTCAGGC
TCGCTGTATGGAACAGATTTCTTACCCCGAGGATCACTGACCATCCAGCATGCCACACAGAGAGATGCCGCTTCTACAAGTGCATGGCAAAA
AACATTCTCGGAGTGACTCCAAAACACTTACATCCAGCTCTTCTGAATGTGGATTCCAGAATGATTGCTTAGGAAGTGAACAAAGCGGGTT
TGTAAGGGAAGCCAGGTTGGGGAATAGGAGCTCTTAAATAATGTGTCAAGTGCATGGTGGCTCTGGTGGGTTTCAAGTTGAGGTTGATCTTGATC
TACAATTGTTGGGAAAAGGAAGCAATGCAGACACGAGAAGGAGGGCTCAGCCTTGCTGAGACACTTTCTTTGTGTTTACATCATGCCAGGGGCTTC
ATTCAGGGTGTCTGTGCTGACTGCAATTTTCTTCTTTGCAATGCCATCGACTGCCTTCATAAGCGTCCATAGGATATCTGAGGAAACATCA
TCAAAATAAGCCATAGACATGAACAACCTCACTACCCCTTGAAGACGCATCAGCTAGTTAACTGCTGCTAGTTTACATAGATAGCTTTGTT
CCAGATTGACAAGTCATCTTTCACTTATTCTCTGTCACTTCAAACTCCAGCTTGCCCAATAAGGATTTAGAACCAGAGTGACTGATATATATAT
ATATATTTTAAATCAGAGTTACATACATACAGCTACCATTTTATATGAAAAAGAAAAACATTCTTCTGGAAGTCACTTTTATATATGTTTAT
TATATATATTTTCTTCTTCAATCAGAGCATGAGACTAGAAGGAGAAATACTTTCTGTCTTATTAATAATTAATAATTATTGGTCTTTACAGACT
TGGATACATTACAGCAGACATGGAAATATAATTTTAAAAAATTTCTCTCAACCTCTTCAATTCAGTCACCACTGTTATATTACCTTCTCCAGGA
ACCTCCAGTGGGGAAGGCTGCGATATTAGATTCTTGTATGCAAAAGTTTGTGGAAGCTGTGCTCAGAGGAGGTGAGAGGAGGAGGAGGAGGAA
AAGTGCATCATACTTTACAGAAATGAATCTAGAGTCTCCCGCAAAAGCCAGAAACTTCTGCAATCTGCTGAGTATCTGGCTTCCATCTGGTCAAGTG
GCTGCTTCTTCCCGAGCATGAGTCAGTTTGTGCCCCATGAATAATACAGACCTGTTATTCTCATGACTGCTTTACTGTATTTTAAAGTCAATATA
CTGTACATTTGATAATAATAATATTCTCCAAAAAATAA

FIG. 1 - CONTINUED

MPKRAHWGALSUVLILLWGHPRVALACPHPCACYVPSEVHCTFRSLASVPAGIARHVERINLGFNSIQALSETSFAGLTKLELLMIHNGNEIPSIPOG
ALRDLSSLOVFKFSYNKLRVITGQTLQGLSNLMRLHIDHNKIEFIHPQAFNGTSLRLHLHLEGNLLHQLHPSTFSTFTFLDYFRLSTIRHLYLAENM
VRLTPASMLRNMPLEENLYLQGNPWTCDCEMRWFLWDKASRGIKCKDKKAYEGGQLCAMCFSPKKLYKHEIHKLKDMTCLKPSIESPLQRNRSRS
IEEEQEEEDGGSQILILEKFLQWISILNMTDEHGNMNVNLCIDIKKPMVDVYKIHNLQTDPPDIDINATVALDFECPMTRYENYELWKLIAIYSEVP
VKLHRELMSKDPVRSYQYRQDADEALYTTGVRAQILAEPEWVMQPSIDIQNRROSTAKKVLLSYTQYSQTIISTKDTROAGRSWVMIEPSPAV
ORDQTVLEGGPQCLSCNVKASESPSIFWVLPDGSILKAPMDPDSKFSILSSGWLKISMESPSDSGLYQICIAQVRDEMRVYRVLVQSPAPAEK
DTVTIGKNPGESVTLPCNALAIPEAHLNWLIPNRRIINDLANTSHVYNLNPNGTSLIPKVOVSDSGYYRCVAVNQOGADHFTVGTITVTKKSGLPSEK
GRRPGAKALSRVEDIVEDEGSGMGDEENTSRLLHFKDQEVFLKTKDDAINGDKKAKKGRRLKLVKHEKEPETNVAEGRRVFESRRRINMANK
QINPERWADILAKVRGNLPKGTVEVPLIKTSPPSLSLEVTPFPFVPPSPASPVQTVTSAEESADVPPLLGEENHVLGTISSASMGLEHNNHNGVI
LVEPEVTSTPLEEVDDLSKTEEITSTEGDLKGTAAFTLISEPYEPSPTLHTLDTVYEKPTHEETATGWSAADVGSSPEPTSEYEPFLDAVSLA
ESEPMPQYFDPDLETSSQPDDEKMKEDTFAHLTPTPTIWNDSSTSQLFEDSTIGEPGVPGQSHLQGLTONIHLVKSSLSQTQDILLIKKHKEMSQT
QGGNMLEDPTHSRSESEGEQESKISITLPDSTLGIMSSMSPVKKPAETTGTLLDKDTTITVTTTPROKVPASSTHSTHPSRRRPNGRRRLRPNKFRH
RHKQTPPTTTFAPSETFSTQPTQAPDIKISSQVESSLVPTAWVDNTVNTPKQLEMEKNAEPTSKGTPRRKHGKRPNKHRYTPTSVSSRASGSKPSPSP
ENKHRNIVTPSSETILLPRTVSLKTEGPDYSLDYMTTRKIYSSYPKVOETLPTVYKPTSDGKEIKDDVATNVDRKHSIDLVTGESITNAIPTSRSL
VSTMGEFKEESSPVGFPPTPTWNPSTRAQPGRLQTDIPVTTSGENLTDPPLLKELEDVDTSEFLSSLTSTVTPFHQEEAGSSTLSSIKVEVASSQA
ETTLDDQDHLETTVAILLSETRPQNHPTAARMKEPASSSPSTILMSLDGQTTTTPALNPSPRIQSARSDSKENVFLNVGNPETEATPVNNEGTOHM
SGPNELSTPSSDRDAFNLSKLELEKQVFGSRLPRGPDSDQDGRVHASHQTLRVPAKPIPLPATVRLPEMSTQSASRYFVTSQSPRHWTNKPEIT
TYPGALPENKQFTTTPRLSSTTIPPLHMSKPSIPSKFTDRRTDQFNGYSKVFGNNNIPEARNPVGKPPSPRIPHYSNGRLPFTTNKTLSPQLGVT
RRQIPTSPAPVMRERKVI PGSYNRIHSHSTFHLDFGPAPPLHTPQTGSPSTNLQNI PHVSSSTQSSISFITSSVQSSGSPHSSKFFAGGPPA
SKFWSLGEKPKQILTKSPQTVSVTAETDTVFCEATGKPKFVTWTVKVSTGALMTPNTRIQRFEVLKNGTLVIRKVQVQDRGOYMTASNHLGLDRNV
VLLSVTVQPOQILASHYQDVTYVLDGTIAMECLAKGTPAPQISWIFPDRRVQTVSPVESRITLHENRTLSIKEASFSDRGVYKCVASNAAGADSLA
IRLHVAALFPVVIHQEKLNIISLPPGLSIHICTAKAALFPLSVRVLDGDTIRPSQFTHLGNLFFVFNGLTYIRNLAPKDSGRVYECVAANLVGSARRT
VOLNVQRAAANARITGTSPRRTDVRYGGTLKLDSCASGDWPRIWLRLPSKRNIDALFSFDSRIKVFANGTLVVKSVTKDAGDYLCVARNKVGDDY
VVLKVDVVMKPAKIEHKEENDHKVFYGGDLKVDCAVTLGPNPEISWSLPDGLVNSFMQSDSGGRTKRYVVFNNGTLFVNEVGMREEGDYTCFAEN
QVGKDEMVRVVKVTPATIRNKTYLAVQVPYGDVTVLACEKAGPEMKPTVLSLTPNVIPTSEAKYQIYQDGLLIQAKORSDSGNYTCLVRNSAG
EDRKTVVIHVNQPPKINGNPNPITTVREIAAGGSRLIDCAEGIPTPRVLWAFPEGVVLPAFYGNRITVHNGSLDIRSLRKSQSVQVLCMARN
EGGEARLIVQLTVLEHMKPIFHDPISEKITAMAGHTISLNCSAAGTFRSLVWVLPNGTDLQSGOQLQRFYHKADGLHISGLSSVADAGAYRCVAR
NAAGHTERLVSLKVLGKPEANKQYHNLVSIINGETLKLPTCPGAGGQPTPSWTLPNHNGLEGPOTLGRVSLLDNGTTLVREASVFDRTGYVCMETE
YGPSVTSIPVIVIAYPFRITSEPTPVIYTRPGNTVKLNCMANGIPKADITWELPKSHLKAGVQARLYGNRFLHPQGLTIQHATQDAGFYKCMK
NILGSDSKTTYHVF

FIG. 2

Levels of Adican mRNA in human cartilage by RT-PCR

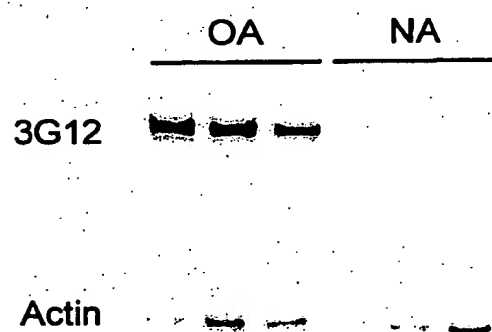


FIG.3

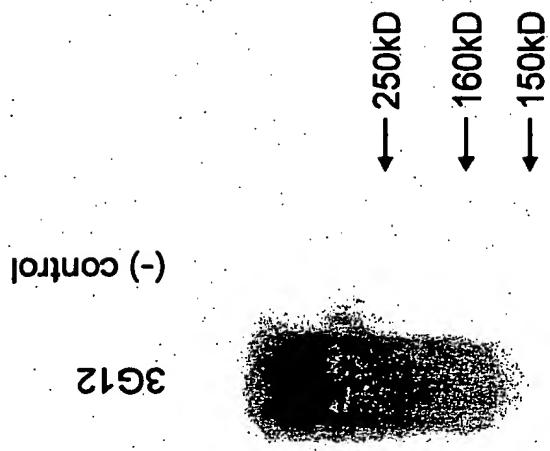


FIG.4

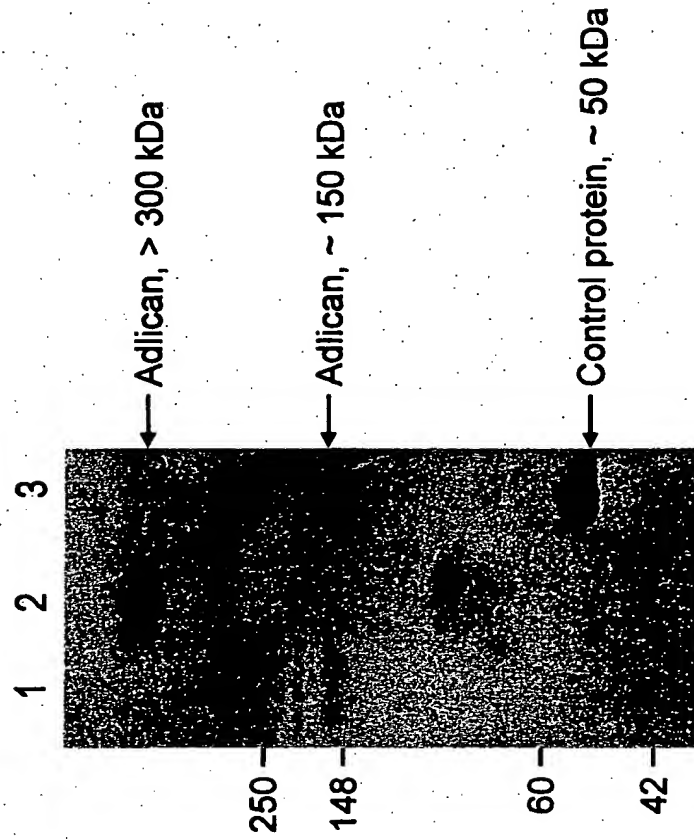
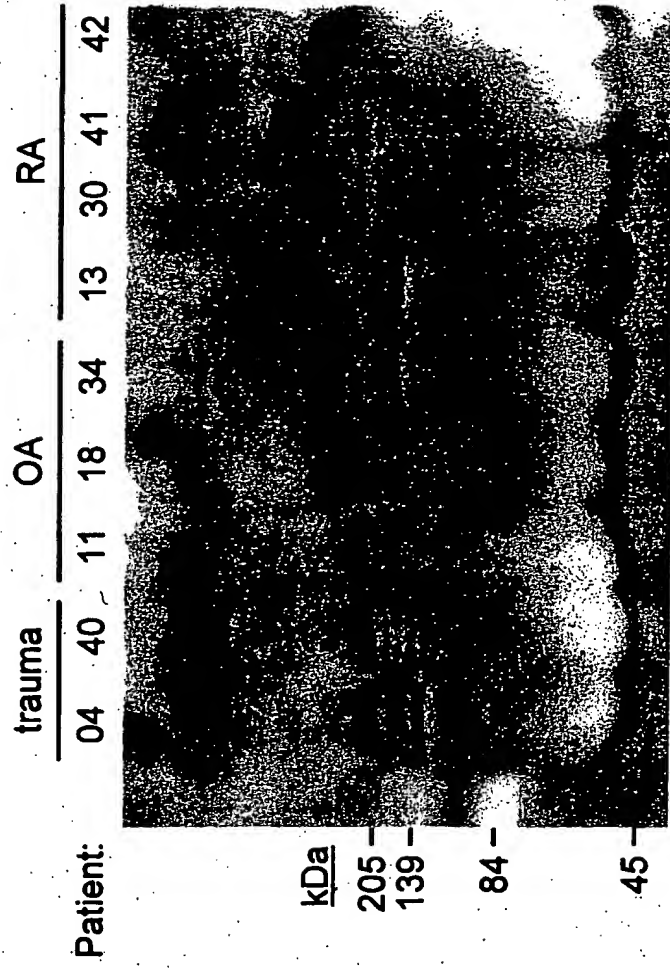


FIG.5



DIAGNOSIS	Western blot positive/total
trauma	1/2
gout	0/3
OA, mild/mod.	2/4
OA, severe	4/4 ←
RA, moderate	2/6
RA, severe	1/2

FIG.6